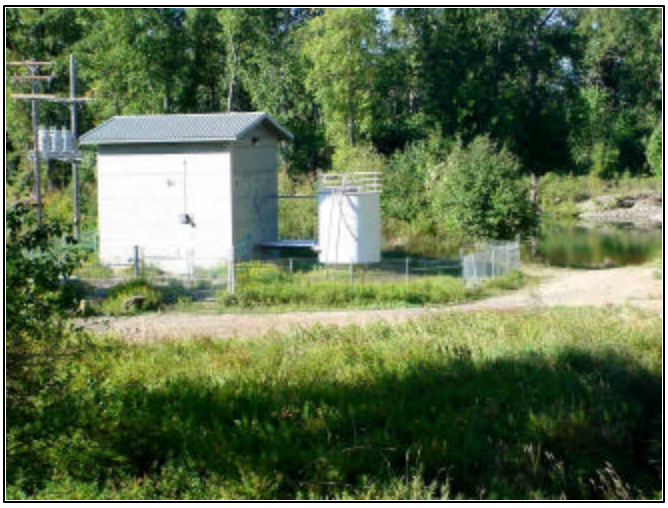
Consolidating Water Systems in a Close-Knit Community

Retrofitting a Productive Industrial System for Drinking Water Use

When the Bunker Hill smelter closed, its industrial water system had a highly productive well, although the infrastructure needed upgrading. Shoshone County bought the water system, intending to operate it and provide adequate industrial water for a new industry that was interested in locating in the same area. The county received a grant from the Economic Development Administration (U.S. Department of Commerce) and began upgrading the system's infrastucture. When the industry they were trying to attract chose not to come to Shoshone County, the county had already started using the grant money, so it was obligated to put the infrastructure upgrade to some beneficial use.



Previously part of the Bunker Hill smelter industrial water system, this well provides water for the Central Shoshone County Water District.

In the meantime, the Central Shoshone County Water District was experiencing ongoing problems with its source waters—two high mountain streams. The streams tended to dry up in late summer. They also tended to flood in the spring, carrying debris that can damage water system intakes. This water district was also facing a new requirement to start filtering all surface water.

One of the high mountain streams that tends to dry up in the late summer, and to have problems caused by flooding.

The county decided to further upgraded the Bunker Hill water system, from industrial to drinking water standards, and turned it over to the water district. The Bunker Hill well produces 5,000 gallons per minute, reliably providing a much greater volume of source water than the streams. Also, because the source is ground water, filtration was not automatically required. In that win-win situation, consolidation was the obvious choice.

Unfortunately, the switch from stream water to the Bunker Hill well has not been trouble-free. The three greatest challenges have been:

- Filtration is required after all. Although ground water doesn't automatically have to be filtered, the well is on a riverbank and testing showed that it is influenced by river flooding, so the water does have to be filtered. The water district has had to temporarily go back to using the high mountain stream sources until the filtration equipment for this well is fully operational or other wells that do not require filtration are developed.
- Corrosion treatment is required. The well water was found to be highly corrosive. It can leach lead and copper out of pipes and carry them to water users, possibly creating a health hazard. It also causes significant damage to water treatment and transmission pipes and valves. Some of the well water is now being treated and can be used, and the corrosion treatment will continue to be phased in until the well becomes the water district's sole source.
- New infrastructure was required. Although it was an expected challenge, the water district had to build new booster pumping stations, plus a new reservoir and transmission line, to get water from the well source through the treatment center and then "up the valley" to users. (The high mountain streams have a natural gravity run down to the users.) The $2.2 million cost was financed with a bond issue.

Economies of Scale Encourage Very Small Water Systems to Consolidate

Ultimately, the added capacity from the Bunker Hill well will help the water district serve many more users. The expense and complexity of operating a public water system is constantly increasing. This has led many very small systems in Shoshone County, like their counterparts all over the country, to want to "get out of the water business." Some had poor sources, making it difficult to stay in compliance. Some had other troubles, and some just prefer the simplicity of getting water from a reliable, well-operated public system.

Knowing these very small systems needed a good alternative, Mac Pooler, Manager of the Central Shoshone County Water District, has encouraged his water district to work with these small systems whenever possible. At his urging, several smaller water systems have been consolidated into the Central Shoshone County Water District, including:

- West Shoshone Hospital and Kellogg High School, whose previous shared system had a surface water source with all the related problems and challenges. They didn't really want to be "in the water business" and were happy to start buying water from the water district.

West Shoshone Hospital gets water from the Central Shoshone County Water District.

- Enaville Resort restaurant, whose previous source was a poorly constructed well that delivered poor quality water. They also have been glad to get out of the water business and begin buying water from the water district.

Rose Mary Peak serves a pitcher of clean, safe water at the Enaville Resort restaurant.

- Elizabeth Park housing development, whose sole source was unfiltered creek water. They were taken over by the water district, after first upgrading their infrastructure to the water district's standards. The cost of the upgrade was split between the homeowners and the water district. This was expensive, as the entire system had to be replaced, but they are now getting water from a system that's professionally operated.
- Page Water District, which also had an operational, unfiltered surface water system. They chose to buy water from Central Shoshone rather than build their own treatment plant.
- Bunker Hill Mining Company's domestic water system.
- Sunny Slopes housing development.

For these systems, combining with the Central Shoshone County Water District was a good alternative to upgrading at prohibitive expense. But before combining with the water district, they each had to bring their infrastructure up to the water system's construction standards. They did not, however, have to install other upgrades that were already included in the water district system, such as corrosion treatment. Still, the expense of the required upgrade was often more than a very small system could afford. Many times, the DEQ Coeur d'Alene Regional Office helped find financial assistance the systems weren't aware of.

Why This Public Water System Encourages Consolidation

Well-established public water systems don't often agree to take on troubled systems that need time and money to meet the established system's construction standards. There are two main reasons Central Shoshone County Water District has done it anyway, several times. First and most important, says DEQ's Steve Tanner, "this is a close-knit community." Neighbors help neighbors, water operators are old friends with customer families, and the entire area served by the water district is one community. In this community, a water district manager like Mac Pooler, who has 30 years of experience and contacts, is as valuable a resource as the source water itself.

Mac Pooler, Manager of Central Shoshone County Water District, in the control room.

Second, all the systems mentioned here have gotten advice, assistance, and referrals from the DEQ Coeur d'Alene Regional Office drinking water and engineering staff. That staff is fortunate to have members who have worked on drinking water issues for many years. Steve Tanner, the drinking water program supervisor, has been there for 24 years, and says some of his staff members have been there almost as long. Steve and his staff have extensive contacts both with water system operators and managers and with other water-related government agencies and service providers. Often, they put people in touch who didn't know each other before—people who can work together to solve drinking water problems and challenges.

Personal Effort Means a Lot

In the final analysis, very small public water systems throughout the country are struggling to continue delivering safe, clean water. The economies of scale gained from combining into a larger water district are almost always the best option, but these consolidations require a great deal of personal as well as professional effort. In Shoshone County, many people have been making those efforts for many years.